

Figure 1

Anopheles gambiae arrestin 1 cDNA sequence (SEQ ID NO: 1)

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ACAGGAACGACGGTTGTGATCCCTCCACTGGTGGTGACACGAATCATAAGCATTATTTTCATACCT
AAAAAACAAAATCTACAAAAAAAGCTTCATTCCCATCGAAAAAACTTTCTTGTGAAATCAACCG
AGCTAACAAACAACATCCTGTGCAAAATCTAGCAGTGAAAGTGTGATATCGTATACCTGTACCTG
TAAACCGTTGTGCGCGTGTGTGCCTTTGTGTATCAATTTTGTGGAAAACAGAAAATACATCAAAA
10 TGGTTTACAATTTCAAAGTCTTCAAGAAGTGCGCCCCTAATGGAAAGGTTACGCTGTACATGGG
CAAGCGTGACTTTGTAGACCACGTTTCCGGCGTTGAACCGATCGATGGTATCGTCGTCCTCGAT
GATGAGTACATTCGTGACAACCGTAAGGTATTCGGTCAGATTGTCTGCAGTTTCCGCTACGGCC
GCGAAGAGGACGAGGTGATGGGACTAACTTCCAGAAGGAGTTATGCCTCGCTTCCGAACAGAT
CTACCCGCGTCCGGAAAAGTCGGACAAGGAGCAGACCAAGCTCCAGGAGCGACTGCTGAAGAA
15 GCTGGGTTTCGAACGCCATCCCGTTCACGTTCAACATCTCGCCGAATGCTCCGTCTTCGGTCACG
CTGCAGCAGGGCGAAGATGATAATGGAGACCCGTGCGGTGTGTCTACTACGTGAAGATCTTTG
CCGGTGAGTCGGAAACCGATCGTACGCACCGTCGCAGCACCGTTACGCTCGGCATACGCAAGAT
CCAGTTCGCACCGACCAAGCAGGGCCAGCAGCCGTGCACGCTGGTGCGCAAGGACTTTATGCTA
AGCCCGGGAGAGCTGGAGCTCGAGGTCACACTAGACAAGCAGCTGTACCTGCACGGGGAGCGA
20 ATAGGCGTCAACATCTGCATCCGCAACAACTCGAACAAAATGGTCAAGAAGATTAAGGCCATGG
TCCAGCAGGGTGTGGATGTGGTGCTGTTCCAGAATGGTAGCTACCGCAACACAGTGGCATCGCT
GGAGACTAGCGAGGGTTGCCCAATTCAGCCCGGCTCCAGTCTGCAGAAGGTAATGTACCTCACG
CCGCTGCTGCTCCTCGAACAAGCAGCGACGTGGCATCGCCCTGGACGGTCAGATCAAGCGTCAGG
ATCAGTGTTTGGCCTCGACAACCCTCTTGGCTCAACCGGATCAGCGAGATGCTTTTCGGCGTTAT
25 CATATCGTATGCCGTAAAGGTTAAGCTTTTCCTCGGCGCACTCGGCGGCGAGCTGTCCGGCGGAA
CTTCCATTTGTGCTGATGCACCCAAAGCCCGGCACCAAGGCTAAGGTCATCCATGCCGACAGCC
AGGCCGACGTAGAACTTTCCGACAGGATACAATCGACCAGCAGGCATCAGTTGACTTTGAATA
GACGACGCAACGGTTTGAAATGCTACCTACTACCCAGGCATGGGCTAACACGACGAACGAAC
TACTACTACTAAGCATAAAAAACAGGAAAAAAATGGAAAACCTAAAAAATGGATCATAACAACCG
30 AACGCAAACGACCTACGACGATCGATCTCACTTCCCCGTCTTTTTCATCCTAAGCAATAGAACGA
TGGTAGAAAAGGAAGATAAAGATGGAGAGAAAGTCACGTGTATCAATGACGACGACTACCAAAA
CTGAAGACGTAACACATGTTCCCCAGCGAGCGGTAAGTGTCTGTTCTGACACCTTCCGCTCGA
CAATGTACCTTTTAAAAACATACAAATTAGAAGTCGTCTTCACTACCTTCAACCAATCCAGCCAC
TTTGGTATATACTTTTCATAGAATCCTTCTGAGCGCAAGGACCCTATTGAAATTCAGTGTTATTTT
35 GTAAGTGCACCAAAATGCCTAGCTGAATGTTGTTGAACGAGTTATGTACATCAAAAGATTGAATA
AAACAAAAA

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[illegible]

Figure 3a

Anopheles gambiae odorant receptor 1 genomic sequence (SEQ ID NO: 9)

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Features:

- 1) Presumed Untranslated 5' and 3' regions are underlined.
 - 2) Potential TATA box transcription initiation signal is double underlined.
 - 3) Putative Start (ATG) and Stop (TAA) codons are in **BOLD**.
 - 4) Introns are tentatively assigned and are shown in lower case.
- Exons are highlighted.

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AGCTTTGTTTCATTTATGTTGAAATCTAGCCCATTTTGTATAGTGCTGAACGACGAAGAACATACGAAAGTACCTCGT
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 TTATCACAAAACGGCAGGTGAGGGCTGGATTGCTTCAAAGCATTAGAAATATATAATTTCAAAGTCCATAATCTCC
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 CTGTATCACCAGGAAACAGCGCGGAAGAATTCAGgtaagcctgctgggaaatatgactaaaaagagtgttaacaaacga
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 tcaataccaaatagtagtagtttcggttacagACGGATAAATTTACAGAGTTTGTGTTGGGTTTTCCAACCTACTTCAAG
 TTCGATAAGCGTACCAGCCAAGCAATGATATTTTTTCTGCAAATgtgagatagcgggtgtatttggtgcagtcagtaca

Figure 3b

Anopheles gambiae odorant receptor 1 amino acid sequence (SEQ ID NO: 4)

5 MKKDSFFKMLNKHRLCLWPPEDTDQATRNRYIAYGWALRIMFLHLYALTQALYFKDVKDIND
IANALFVLMTQVTLIYKLEKFNYNIARIQACLRKLNCTLYHPKQREEFSPVLQSMMSGVFWLMIFLM
FVAIFTIIMWVMSPAFDNERRLPVPAPWFPVDYHHSDIVYGVFLFLYQTIGIVMSATYNFSTDTMFSG
LMLHINGQIVRLGSMVKKLGHDVPPERQLVATDAEWKEMRKRIDHHSKVYGTMYAKVTECVLF
10 HKDILRIYLRASMRVCNYHLYDTAATTGGDVTMADLLGCGVYLLVKTSQVFIFCYVGNEISYTDKF
TEFVGFSNYFKFDKRTSQAMIFFLQMTLKDVBHVKVGSVLKVTNLHTFLQIMKLSYSYLAVLQSM
ESEZ

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영역	구분	비고
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2. 교육	2.1. 교육	2.1.1. 교육
3. 문화	3.1. 문화	3.1.1. 문화
4. 경제	4.1. 경제	4.1.1. 경제
5. 사회	5.1. 사회	5.1.1. 사회
6. 환경	6.1. 환경	6.1.1. 환경
7. 보건	7.1. 보건	7.1.1. 보건
8. 복지	8.1. 복지	8.1.1. 복지
9. 기타	9.1. 기타	9.1.1. 기타
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95. 기타	95.1. 기타	95.1

Figure 4a

Anopheles gambiae odorant receptor 2 genomic sequence (SEQ ID NO: 10)

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Features:

- 1) Presumed Untranslated 5' and 3' regions are underlined.
- 2) Potential TATA box transcription initiation signal is double underlined.
- 3) Putative Start (ATG) and Stop (TAA) codons are in **BOLD**.
- 10 4) Introns are tentatively assigned and are shown in lower case.
- 5) Exons are highlighted.

1005405040302010

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GGGATCCTCTAGAGTCGACCTGCAGGCATGCAAGCTTCCCTCACCGTGACGTGCTAGAAATGGTTCAACATACTCGT
 CCGGCAGAGCGAAGACGACGAACAGCGGAATGTCCCAGGAAATGTAATGAGATATCACAGCAAGTGAACCCAAACCG
 AGCTGTGCGCTTTGTGTTGCGCTTTAAAAATGGCCCTTCCTTCGCCGCATCTGCTTGGTTTCACACGCTTTCCCAGG
 AAATCCACTGACCACTGGCCACACATCAACCACCGGAGCGGGAGCCTCAGTGCCCAGCGAAGCATATAATTTGCTCA
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 aatagctgttcattaataagttttttcagaatgtatcggttttagttgatttaaagcattgttctatgcaatggta
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 gttggtgttcttattattgttggtgttggtgttattcttattattgtttattattattgtttttttttattctctaatta

Figure 4b

Anopheles gambiae odorant receptor 2 amino acid sequence (SEQ ID NO: 6)

5 MLIEECPIIGVNVRVWLFWSYLRRPRLSRFLVGCIPVAVLNVFQFLKLYSSWGDMS ELIINGYFTV
LYFNLVLR TSFLVINRRKFETFFEGVAAEYALLEKNDDIRPVLERYTRRGRMLSISNLWLGA FISA
CFV TYPLFVPGRGLPYGV TIPGVDVLATPTYQVVFVLQVYLTFPACCMYIPFTSFYATCTLFALVQI
AALKQRLGRLGRHSGTMASTGHSAGTLFAELKECLKYHKQIIQYVHDLNSLVTHLCLLEFLSFGM
10 MLCALLFLLSISNQLAQMMIGSYIFMILSQMFAFYWHANEVLEASLGIGDAIYNGAWP DFE EPIR
KRLILIIARAQPTDGGKIKVGNVYPMTLEMFQKLLNVSYSYFTLLRRVYN

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[illegible]

Figure 5a

Anopheles gambiae odorant receptor 3 genomic sequence (SEQ ID NO: 11)

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Features:

- 1) Presumed Untranslated 5' and 3' regions are underlined.
- 2) Putative Start (ATG) and Stop (TAA) codons are in **BOLD**.
- 3) Introns are tentatively assigned and are shown in lower case.
- 10 4) Exons are highlighted.

10056405 "01202"

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AAGCAGAACACATCAAGAAGCAATTAGGTGTGTCGTACGTTAGCAAGTAGTTCGCGAGGAGGAATAAAATAG**ATGCC**
TTCTGAGCGGCTTCCTCTCATTAAGTTCCTTCGGAACCTCTCAAGACAAACGCACGATGGTACTGCCAAAATTAAAGG
ATGAAACAGCAGTGATGCCGTTTCTGCTGCAAATTCAAACCATTCGCCGACTGTGGGGTGACCGTTCCAGCGGTAC
CGTTTTATCTCATCTTTTCTACTTCTGCGCGATGGTGGTTCTACCCAAAGTGCTGTTCCGGTTATCCAGATCTCGA
GGTTCCGGTACCGCGGACCGCCGAGCTGATGTTCCAATCGAACGCATTCTTCGGCATGCTAATGTTTTCGTTTCAAC
GGGACAACTACGAGCGCATTTGGTGCATCAGCTGCAGGATCTGGCAGCTCTAGgtgagtatgcagccaatcgattgttc
caaaccttcgcaacatccttcgtaacactgctacactttcagTCCTCCAAGACCTACCCACAGAGCTGGGAGAGTAC
CTGATCTCAGTGAAACCGACGGGTGATCGGTTCTCCAAAATTACTGCTGCTGTCACCTTTTCCATGCCAACGTTGCT
TTGGTTTCATGCCCGTCTGGACGACCTATTCGGCCTACTTTGCTGTGCGCAACAGCAGCGAACCGTCCAGCAGTGT
TGCAGCTCCAGGAAGAGCTGTACTTCTGAAATTCGGACTTCGATGGCGCACTATACGTTTATGTGCGCCATTATG
TGGCCACGATCTATACGCTCGGGTTTACCGGTGGCACAAGCTGCTGACCATTTCAGCAATGTTAAGTACTGTTG
CGCCATGCTGAAGCTCGTTGCACTCCGAATCCACTGTCTAGCGAGAGTAGCGCAAGACCGAGCGGAAAAGGAGCTGA
ACGAGATTAATTCATGCATCAGCGGCTACTCAAgtaagtaaattcaaattgaaagttttgcaggaataacttgag
tgtgtctgaccgtgcacatcctagCTGCGTGTTCCTGCTGGAGACGACATTCCGCTGGGTATTTTTCGTCAGTTG
ATTCACTCTACAATGATCTGGTCCAGTCTCATCTCTACATAGCGGTGACGgtaatagcattttcgtcatttcgtta
gccttattcaatccatttttgtaacgtgaatttccccagCGGTTTCAGCTCGACGGTAGCGAATGTATGTGTCCAG
ATCATTTTGGTGACCGTGGAAAATTACGGCTACGGCTACTTGGCAACACATCTAACCACGGAGGTGCTTTGGgtacc
ctttggatgaagcttcaaaaagtaattccaaattctgttttcgatttttccccttttccactagAGCTATGGCGTTG
CGCTCGCCATTTACGATAGCGAGTCTACAAGTTTCCATTTCGATGCGCGGCAAACTTCGACTGCTACTGCAACGA
TCCCAAAAACCGGTCCGGCTAACGGCGGGGAAAGTTTCGCTTCGTCAATGTGGCCAGTTTCGCAAGgtaacattaat
tacagtttgaaaattctgaagaatgcatttacttgcttacttggtgttccagATGCTCAAGATGTCTATTCATT
TTAGCTAGTACTGAAGGAGCAGTTTATAGGAGCTGCTGTTTCCACCCTGGAAATGGCCTTTTCGCACTGTCTTCTGT
TTGTTGGACGCACGCAGCAGCAGCGCCCTGCACGCACTGACGTATTTTGGCTACTTTGACGTTTGACCTTTG
ACAGCTGAAGGACAGGGTACAATTTTGTGCTGTTATTACGCGCAGCGCATTGGATACGAAAACATTGGCCACAAG
TTCTACGATTTTAGCGTTTATTTACTGTTCTGTAGCAGCTTTTTTCCaCAATAAACACACACAATAACGTACCGACAG
TATTCTTTTCATTGTAGGATAGAGAAGCCGCCGCCAGCAGCCAAAACGCGCCGCAAAACGAAAGGCGGCACCACCG
GGGGAAAACACGGGAGCAAAACGAGAACAGAACGCAGTAAACAACAAACCGGCCGAACAACAACGGTGCCGGAA
ACGA

Figure 5b

Anopheles gambiae odorant receptor 3 amino acid sequence (SEQ ID NO: 8)

5
MPSERLRLITSFGTPQDKRTMVLPKLKDETAVMPFLLQIQTIAGLWGDRSQRYRFYLIFSFCAMV
VLPKVLFGYPDLEVAVRGTAELMFESNAFFGMLMFSFQRDNYERLVHQLQDLAALVLQDLPTL
GEYLISVNRVDRFSKIYCCCHFMSMATFFWFMPVWTTYSAYFAVRNSTEPVEHVLHLEEELYFLN
10 IRTSMAHYTFYVAIMWPTIYTLGFTGGTKLLTIFSNVKYCSAMLKLVALRIHCLARVAQDRAEKEL
NEIISMHQRVLNCVFLLETTFRWVFFVQFIQCTMIWCSLILYIAVTGFSSTVANVCVQIILVTVETY
GYGYFGTDLTTEVLWSYGVALAIYDSEWYKFSISMRRKLRLLLQRSQKPLGVTAGKFRFVNVAQF
GKMLKMSYSFYVVLKEQF

15

2022-04-04 10:54:00

Figure 6a

Anopheles gambiae odorant receptor 4 genomic sequence (SEQ ID NO: 12)

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Features:

- 1) Putative Start (ATG) and Stop (TAA) codons are in **BOLD**.
- 2) Introns are tentatively assigned and are shown in lower case.

10 GGGGAACTCCCCACCCGACCAGACGACGGAAAGCTAACGATGTGCAATTGAATAGTCATTAGT
AGCGTTTTTTGCTCGCAAACGAACTAACCCTTTGACTTTTTTAAGTTCACTACGGTGAGGACAAAAA
TCAATAAATTAAATCGAGACCGTTGATGAGCAAAAGAAAAAAAATATTTTACTGATTTTCATTT
CGTTCCATCGACTACATAATCATAATTATATGCCACATTTTATTATAAGTTTTTGTATCATTTTTTA
AACAAACAAAAATGCATCCTTTCGAATATTAGTCAGGTTGTATCAACAATGAAGTTTGAAGTGT
15 TTCAAAAATATTCTCCCCGGACACGGTCTTATCCTTCGTGCTAAGGCTTTTGCATATCGTGGGC
ATGAATGGGGCAGGATTTTCGGTCGCGAATTCGAGTTGGTGGCATTTTTCTGTTCTATTTAATCTT
TCTTGTAATACCGCCACTAACGGGCGGGTACACCGATGGTCACCAGCGTGTACGCACCAGTGTG
GAATTCCTGTTTAATTGCAATATTTACGGCGGCAGTATGTTCTTTGCCTACGATGTGGCCACTTT
CCAAGCGTTCATCCAGGAACTGAAGAGCCTTTCGGTTTTTGgtaatatattaattaataaaattgcgtttattgcat
20 catcatttggtttctctttgcagTATGCTCACATTCGTACAGACTAAAGTATAAGCTGACCCGGTTCAACCGTC
GAGCGGATATTATCGCCAAAGTGCAAACGACCTGCATGGGTGCTGTAACGCTTTTCTACTGGAT
TGCACCGATACCTTCCATCTGTGCGCACTACTACAGGTGACCAATTCACCGAACCCTGCGG
TTTGTGCAACATTTAGAGGTGAAGTTCTATTGGCTCGAGAATCGCACCTCAGTCGAGGACTACAT
AACCTTCGTGCTGATCATGCTACCCGTCGTGGTTATGTGTGGTTACGTATGCAATTTGAAGGTGA
25 TGACCATCTGCTGCAGCATTGGACACTGTACACTGTACACCAGGATGACTATAGAGATGGTAGA
GCAGTTGGAAAGCATGGCATCAGCGGAACGAACTGCCAGCGCCATACGCAACGTGGGGCAGAT
GCACAGTGGTTTACTGAAATGCATTAGGCTTTTGAACACGTCAATCCGATCGATGCTGATGCTGC
AGTGGTTGACCTGCGTGTTAACTGGAGCATTCTCTCATCTATCTAACGAACGTGgtagttttgtctt
gtttggaaatccaaaaacaaaagatggctataattgaactttctattacagGGCATCTCGCTACAATCGGTTACCGTGGT
30 GGTAATGTTTTTTCTTGCCACTGCGGAACTTTCTGTATTGTTTACTTGGGACGCGGCTTGCGA
CACAACAGCAGCTGCTGGAGCACGCACTCTATGCTACACGGTGGTACAACCTACCCAATAGCCTT
TCGCAGCAGCATTAGGATGATGTTGAGACAGTCGCAAAGGCATGCACACATAACGGTGGGGGAAG
TTTTTTTCGCGTTAATTTGGAAGAATTTAGCAGGATTGTCAACTTATCCTACTCTGCTTACGTCGT
ACTTAAGGATGTAATAAAGATGGATGTACAGTGAATGTTTTTTTTTTTGGCTTGGCAACGAATGA
35 AGTTTTCCGAATCTATATTAGATCTAGAATTTAATCTAGATGTCATAATATGATCTTGGCCATGA
CCGGTTCCTGGTTTTTGGAAACCAATTCTCAAAACAATTTTGAAGTTAGGGCGAGGCATGAAATGTC
CCAAGAACCTATCCAAGTTCTGGAACCTACATATTACCGAATCTATCCCATTTATTGCCTCGGAACT
GGTTTGGTGCTAAATATTTGTCCAAATGTTGGTCCTGGACCTATCCAGACAAAGATCTTCAATTA
TTCCTACCACTGGAACCTGATTAATTGATGTAGGAAGTCATGGAGGTGTTTCAGGGAGAATTTAAA
40 CACTAATGTTCCAACCTCATTATTTCAAGGGCAATTCTATTTTTTATATGCCCCTACGGATTGATAC
GTATGTATTACTCCATTTCTGGACTTTGTCTTATTCTTGCTGCTGATTGGACGTGAAATGTTGA
GAAAAAGATTCTTATTTATGAGTGATACAGAGCCTTTAAATACTCCTACGTTGTTTGCTATTTAA
GTATGGCCAGGCTAATCACAATCGCTACTAATGAACAGAATCTCTTCTAATTAAACCTTTTCGAT
TGATAGTGTCATGTCAATGTGCGAGATAATTGAAGTGAACgATACCTACCTTAAACGGAGCAG
45 AACACATCAAGAAGCAATTAGGTGTGTGCTACGTTAGCAAGTAGTTCGCGAGGAGGAATAAAAT
AG

50

Figure 6b

Anopheles gambiae odorant receptor 4 amino acid sequence (SEQ ID NO: 14)

5

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15

MKFELFQKYSSPDTVLSFVLRLRHIVGMNGAGFRSRIRVGGIFLFYLIFLVIPPLTGGYTDGHQVR
TSVEFLFNCNIYGGSMFFAYDVATFQAFIQELKSLSVLVCSHSYRLKYKLTRFNRRADIIAKVQTTC
MGAVTLFYWIAPIPSICAHYYRSTNSTEPVRFVQHLEVKFYWLENRTSVEDYITFVLIMLPVVVMC
GYVCNLKVMTICCSIGHCTLYTRMTIEMVEQLESMAAERTASAIRNVGQMHSGLLKCIKLLNTSI
RSMLMLQWLTCVLNWSISLIYLTNVGISLQSVTVVVMFFLATAETFLYCLLGTRLATQQQLLEHAL
YATRWYNYPIAFRSSIRMMLRQSQRHAHITVGKFFRVNLEEFNRIVNLSYSAYVVLKDVIKMDVQ
NVSYSYFTLLRRVYN

106640-0140

105646-0144

Figure 7

ANOPHELES GAMBIAE

Preferred DNA Codons

Amino Acids			Preferred Codons					
Alanine	Ala	A	GCC	GCG	GCT	GCA		
Cysteine	Cys	C	TGC	TGT				
Aspartic acid	Asp	D	GAC	GAT				
Glutamic acid	Glu	E	GAG	GAA				
Phenylalanine	Phe	F	TTC	TTT				
Glycine	Gly	G	GGC	GGT	GGA	GGG		
Histidine	His	H	CAC	CAT				
Isoleucine	Ile	I	ATC	ATT	ATA			
Lysine	Lys	K	AAG	AAA				
Leucine	Leu	L	CTG	CTC	TTG	CTT	CTA	TTA
Methionine	Met	M	ATG					
Asparagine	Asn	N	AAC	AAT				
Proline	Pro	P	CCG	CCC	CCA	CCT		
Glutamine	Gln	Q	CAG	CAA				
Arginine	Arg	R	CGC	CGG	CGT	CGA	AGA	AGG
Serine	Ser	S	TCG	AGC	TCC	AGT	TCT	TCA
Threonine	Thr	T	ACG	ACC	ACT	ACA		
Valine	Val	V	GTG	GTC	GTT	GTA		
Tryptophan	Trp	W	TGG					
Tyrosine	Tyr	Y	TAC	TAT				

[http://www.kazusa.or.jp/codon/cgi-bin/showcodon.cgi?species=Anopheles+gambiae+\[gbinv\]](http://www.kazusa.or.jp/codon/cgi-bin/showcodon.cgi?species=Anopheles+gambiae+[gbinv])

Figure 8

Name	SEQ ID NO	FIG. Reference
Arrestin 1 (cDNA)	SEQ ID NO: 1	Figure 1
Arrestin 1 (polypeptide)	SEQ ID NO: 2	Figure 2
Odorant Receptor 1 (cDNA)	SEQ ID NO: 3	—
Odorant Receptor 1 (polypeptide)	SEQ ID NO: 4	Figure 3b
Odorant Receptor 2 (cDNA)	SEQ ID NO: 5	—
Odorant Receptor 2 (polypeptide)	SEQ ID NO: 6	Figure 4b
Odorant Receptor 3 (cDNA)	SEQ ID NO: 7	—
Odorant Receptor 3 (polypeptide)	SEQ ID NO: 8	Figure 5b
Odorant Receptor 4 (cDNA)	SEQ ID NO: 13	—
Odorant Receptor 4 (polypeptide)	SEQ ID NO: 14	Figure 6b
Odorant Receptor 5 (cDNA)	SEQ ID NO: 15	—
Odorant Receptor 5 (polypeptide)	SEQ ID NO: 16	Figure 9b
Odorant Receptor 6 (cDNA)	SEQ ID NO: 17	—
Odorant Receptor 6 (polypeptide)	SEQ ID NO: 18	Figure 10b
Odorant Receptor 7 (cDNA)	SEQ ID NO: 19	—
Odorant Receptor 7 (polypeptide)	SEQ ID NO: 20	Figure 11b

Figure 9a

Anopheles gambiae odorant receptor 5 genomic sequence (SEQ ID NO: 21)

5

Predicted Exons: *ITALICIZED*, UNDERLINED AND **HIGHLIGHTED**.
Introns: lowercase.

10 tctagactgaacccatgacgggcattttattgagtcgttcgagttgacgactgtaccacgggaccaccggtttatcactatcactatt
aattaattataatagctttttagcgatcagcctaccgggtttgtttctctggatatcttaagttcccatttgattatcaagatagaa
caacaactgtaccttaataatcattacgtacccttaataacgtgtgcatcaaggagttttcgcgaaagcaaaaatccgattgtct
gatgtgtcttgattccatccgattcggttactggttctgcaaaatcgccaataataggcaatgtccttatcgatgcttgaatcaacat
cacattgtttgcatttcgttttttgcgtgcaaatatgttatttgcagaaggcaaggtaatgtgcttaagagtaaatacaattcgctg
15 tccattttttgtccaccagtgtgccagaacccgtgccttttagtccttcgaatacatccgaccagtcagcaagcaagtgcac**ATGG**
TGCTACCGAAGCTGTCCGAACCGTACGCCGTGATGCCGCTTCTACTACGCCCTGCAGCG
TTTCGTTGGGCTGTGGGGTGAACGACGCTATCGCTACAAGTTCCGGTTGGCATTTTTA
AGCTTCTGTCTGCTAGTAGTTATTCCGAAGGTTGCCTTCGGCTATCCAGATTTAGAGAC
AATGGTTCCGCGGAACAGCTGAGCTGATTTTCGAATGGAACGTACTGTTTGGGATGTTG
20 **CTGTTTTCTCTCAAGCTAGACGACTATGATGATCTGGTGTACCGGTACAAGGACATATC**
AAAGATTGgtgcgtgataatgattgataaaaggaacctttgagcaactcctatccctttcaag**CTTTCCGTAAGGAC**
GTTCCCTCGCAGATGGGCGACTATCTGGTACGCATCAATCATCGTATCGATCGGTTTTC
CAAGATCTACTGCTGCAGCCATCTGTGTTTGGCCATCTTCTACTGGGTGGCTCCTTCGT
CCAGCACCTACCTAGCGTACCTGGGGGCACGAAACAGATCCGTCGCCGTCGAACATGT
25 **GCTACACCTGGAGGAGGAGCTGTACTGGTTTCACACCCGCGTCTCGCTGGTAGATTAC**
TCCATATTCACCGCCATCATGCTGCCTACAATCTTTATGCTAGCGTACTTCGGTGGACT
AAAGCTGCTAACCATCTTCAGCAACGTGAAGTACTGTTCCGGCAATGCTCAGGCTTGTG
GCGATGAGAATCCAGTTCATGGACCGGCTGGACGAGCGCGAAGCGGAAAAGGAACCTGA
TCGAAATCATCGTCATGCATCAGAAGGCGCTAAAgtaaggctctgccggtatgttgtggatagaatacattt
30 ctagctgctttcag**ATGTGTGGAGCTGTTGGAAATCATCTTTCGGTGGGTTTTCTGGGACAG**
TTCATACAGTGCGTAATGATCTGGTGCAGCTTGGTTCTGTACGTCCGCCGTTACCgtaacta
aaagcactgtagtgtctgtctgccacaccattcactgctgtgtcttgtttgtcactcttcccag**GGTCTCAGCACAAAAG**
CGGCAAACGTGGGTGTACTGTTTATACTGCTAACAGTGGAACCTACGGATTCTGCTA
CTTTGGCAGTGATCTTACCTCGGAGGCAAGTTGTTATTCCGCTGAgtttcagttactttccgttcccc
35 tctaaccgtaccacttgaccatttgtttgagacagagcttgagcgtag**CACGTGCTGCGTACGGTAGCCTCTGG**
TATCGCCGTTCCGGTTTCGATTCAACGGAAGCTTCGAATGGTACTGCAGCGTGCCCAGA
AACCGGTCGGCATCTCGGCTGGGAAGTTTTGCTTCGTGACATTGAGCAGTTTGGCAA
Tgtatggggagaccttccactgtggcaagaaagattttctttattaatgcatttttaatttacag**ATGGCAAAAACATCA**
TACTCGTTCTACATCGTTCTGAAGGATCAATTTTAAaggggaactccccaccgaccagacgacggaa
40 agctaacgatgtgcaattgaatagtcattagtagcgtttttgctcgcaaacgaactaaccctttgactttttaagttcactacggtgag
gacaaaaatcaataaattaaatcgagaccgttgatgagcaaaagaaaaaaaatattttactgattttcatttcgttccatcgacta
cataatcataattatgccacattttattataagttttg

45

Figure 9b

Anopheles gambiae odorant receptor 5 amino acid sequence (SEQ ID NO: 16)

5
MVLPKLSEPYAVMPLLLRLQRFVGLWGERRYRYKFRLAFLSFCLLVVIPKVAFGYPDLE
TMVRGTAELIFEWNVLFGMLLFSLKLDDYDDL VYRYKDISKIAFRKDVPSQMGDYL VRI
NHRIDRFSKIYCCSHLCLAIFYWVAPSSSTYLAYLGARNRSVPVEHVLHLEEELYWFHTR
VSLVDYSIFTAIMLPTIFMLAYFGGLKLLTIFSNVKYCSAMLRLVAMRIQFMDRLDEREA
10 EKELIEIIVMHQKALKCVELLEIIFRWVFLGQFIQCVMIWCSLVLYVAVTGLSTKAANVG
VLFILLTVETYGFCYFGSDLTSEASCYSLTRAAYGSLWYRRSVSIQRKLRMVLQRAQKP
VGISAGKFCFVDIEQFGNMAKTSYSFYIVLKDQF

15

10056406.012406

Figure 10a

Anopheles gambiae odorant receptor 6 partial genomic sequence (SEQ ID NO: 22)

- 5 These are the predicted last three exons of another candidate *Anopheles gambiae* odorant receptor.

Predicted Exons: *ITALICIZED*, UNDERLINED AND **HIGHLIGHTED**.
Introns: lowercase.

10

1056405013402043705045001

aacacccatcttatcggcaaaattagtagttaccgtttgaaagcggcttcccttcctggctgtttctcactctctctctctgtctctctta
ttgatgccgtatgcgccgcgtgctataggctagTTATGCTTACCGGATGTTGCGATCGCGCACGTGCTTT
TCCGCATACGCCAGTGCACACTTGATGGCGGTGGTGATGACGTCTGCTGCGCACCGTT
15 TTCTGCTCGTGAGTCAGACCTTTTCATTTCCCTGCAATATCCTGTTTCTTTCCCGACCCC
ACAGACGGTTAGACGGATATATGCTGGTAAAGTTTGTCCCTCTTCATGCTGTGCTTTCTG
ATCGAGCTGCTGATGCTGTGTGCGTACGGTGAGGATATTGTGGAATCGgtaaggcaccaggc
ggtgatgagcgagtcgcgagtaattgaagcttttgcttttaaaacacatcagagCCTTGGGGTGATTGATGCCGCT
TACGGTTGCCAATGGTACCGGGAAGGGTCGGTGGCGTTCCATCGATCCGTGCTGCAAA
20 TTATACACCGCAGCCAGCAGTCCGTCATACTGACCGCATGGAAAATTTGGGCCATCCAA
ATGAGTACTTTTCAGTCAGgtgagttgccattgattgccgtttgcgttaatatcagtaagagtgcgctctttcccttag
ATCCTGCAAGCTTCCTGGTCCCTACTTTACCCTCCTGAAGACCGTCTACGGGAATAAgtaa
gcgcgagagagagagagagagcagtagtaccctttggatgaatcaatagatttctaatcatgaaccattgaaaaatgaatca
acattttcgctagttgcacaatattgtaccattctatacagcttcaccacgaccaagcgtttgttgcacaggaacaaacacgtttcga
25 caagccgcgtcacctgctggc

Figure 10b

Anopheles gambiae odorant receptor 6 partial amino acid sequence
(SEQ ID NO: 18)

5

LCLPDVAIAHVLFRIRQCTLDGGGDDVCCAPFSARESDLFISCNILFLSRPHRRLDGYML
VKFVLFMLCFLIELLMLCAYGEDIVESPWGDZCRLRLRMVPGRVGGVPSIRAANYTPQP
AVRHTDRMENLAHPNEYFQSDPASFLVLLYPEDRLRE

10

10056409-014409

Figure 11a

Anopheles gambiae odorant receptor 7 genomic sequence (SEQ ID NO: 23)

5

Features

1. Predicted Exons (7): ALL CAPS, ITALICIZED, UNDERLINED, HIGHLIGHTED

2. Introns (6): lowercase

10 3. 5' and 3' sequences: lowercase, dotted underlined

15
20
25
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ccgccccgggcaggtgacttacgcggtctgacttgctggtgcgctgctttgtacggcaaacggctacacaagcgaatcgaattatttcc
tatacgcgtgcgcttaccagcgcctgctggtaggcaaagaatgtgcaaagtttcatttggttggttcgtctgctttgctgtgaacgtgt
gcacggttgcatcgctaaggtttcggtgtgagccgagaagttgcagatcgaaatctctttgtgtgtgtgtgtgtgtgcagtgggaa
gcattgtgttttagtgagaagtgaagaaagaaagtgctgaaaaatgcaagtcacgacgaagtagctcggccttcgttgcgcgacct
gatgccgaacattcgggttgatgcaggccagcggtcaactttctgttccggctacgtcaccggcccgatactgatccgcaagggtgtac
tcctggtggacgctcgcccATGGTGCTGATCCAGTTCTTCGCCATCCTCGGCAACCTGGCGACGA
ACGCGGACGACGTGAACGAGCTGACCGCCAACACGATCACGACCCTGTTCTTCACGCA
CTCGGTCACCAAGTTCATCTACTTTGCGGTCAACTCGGAGAACTTCTACCGGACGCTC
GCCATCTGGAACCAAGACCAACACGCAACCCGCTGTTTGCCGAATCGGACGCCCCGGTACC
ATTGATTGCGCTCGCCAAGATGCGGAAGCTGCTGGTGCTGGTGATGGCCACCACCGT
CCTGTGGGTTGTCTGgtatgtgtgtatgtgtgtggcgtttgggaaagtgtctttgcggcagaaccccaatctactgttacgc
ttgactgggtttttgttttttctcgttgaggagggacgggataaaatatctgaaagaataattgagtcaaccacagggggatgcaag
acatcgaggcagagagtttggtttgatttatcaccgcacaccgaatatcttcacggttcataagcttcaccgcggtgaaaaggga
actccccatttcctgttttcttttttcttctctcgataaattactcatcgcttttcgtttttttttttgttggtgcttcttcttcttctc
cctactagCCTGGGTTACGATAACATTTTCGGCGAGAGCGTCAAGACTGTGCTCGATAAG
GCAACCAACGAGACGTACACGGTGGATATACCCCGGCTGCCCATCAAGTCCCTGGTATC
CGTGGAATGCAATGAGCGGACCGGGCGTACATTTTCTCTTTTCATCTACCAGGTACGTTG
GCGGAATgtcctgcgcgtcacagttggcagtcagtgagcggcaacacggcgaaaaaatgggactaaaaccggtcttcacaga
gccaacacattcctacagcaattgcataccttcgggcggtcgggactgggcaatgcagctacaacatcctcgctaaagtattgcaat
tcgagcgacaaatgttgccgtgttagggctttttgtgataatagtcgtttttgtcctctcgcttatcaaactctatcaacggaggaaa
tccattttcgctacaatgcctacagctcaagtttcaaggtcaatcgagcgggtggggatcaactttttattcattttgttaacgcccc
tcaacaaattctatgtttctcaatggcaaagattactgcccgcaccaatcgcccaacgaaacggcaaaaagaaagcgacgattatga
agatgtccaaaccattgcccggcgacgctttatctgatgatttgcgggatggcttttacttgtctgctactttcaggcacaaaaggaa
atgaaaccagcgcaggctcgtttgcgggttgaggaggttcttcaggcactgaggctgagtacttaaatcgaacgatttttacgattc
tggtatccagttttatgatgtggcctgcattacagtggaattataccctgatgttcatttcattgcattttgttaagtttgctgtgtaacg
ccgtaacgattaattcttttcaaagagattctttcaaagagattcaaaatgtgtataacaaatgctaacgaatggaccgtacttgg
aggggtgcggaagtaacgttttaaaatattcatcacaatcctctgcaaacttgtgcttaattaattggtgcacaataagtttaact
gtggcggcagatgtgtcgtgtcgcgttcttcttccagcaagctcgtgcgaaataatttattccatcattttaatacagccgtttgtg
cattttaattagcaaagcaatataaaaagcagctaaccatccccattaaaacaaagtgttccgggccaattgttatggcggtgga
aagtaatggttttaccagtgggaagtgtcctttccatcggtggtacttcgcgatattcttgtcttatacaagtgcatacagaaaaaa
ggacaaatcctccttgcctatggtctaaggccagcttcggtaccgcttcggttcgggatgtcataaagtttgatgggtgttttaacatt
acttcgctcttaaccacctaattgacttttcatgcttgagctaaagttaaaccagccaccagcggtacgcaccgagccacggttgatt
tcggcggcggcctcatccccagttttgcgccaccaatattgccttcattaatctgtaccctcgagcggttagggcccgcgacgagtcct
cgttgtaatgcaccgccatgccacgggacgggataatccgttgggacggcgcgaaagcgactatcgcgacgggattggttcgaccg

105640501242

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tgctacaacacatTTtatgcttcacagatttacttctgctgttttcgatggccagagcaacctcgcgatgtcatgttctgctcctggt
tgctgctagcctgcgagcagctgcaacacttgaaggtaggtacggtagcaaactgggtgttttacatccgctgcagcattatcct
tatcgacgtgtagtgtaacggtaaaagaggaagcgataaaaaagcaacattctctcacacctcgatctctctttatTTtctctctct
ctccatctctctcgggcagGGTATTATGCGATCGTTGATG
GAGCTTTCGGCCTCGCTGGACACCTACCGGCCCAACTCTTCGCAACTGTTCCGAGCAA
TTCAGCCGGTTCCAAATCGGAGCTGATCATCAACGAAGgtatgtgaaacgtgtgctcgtggcagacg
gactcaaagagagcataacacaatcccctggtagttcatttcaatgaccttaacactcggcaagctaagcgagacagtggggacag
tgagaaagagagagaacaagaaaaaaaccatcatccgtacgacatcatcgctacgtaccgggtatttcaggatgaggaaataaaac
gctaggggaatgaaagtgcgacagaatgataaaacaatccccaccagggccccagcctggacgaacggatgtagtggtgcaagc
gagcaaaaaaagtcaaataaattgaagtttaaaaaatagattttccccgtccatccgtgggtggagcgtaaagccccggcgacaactt
cgagcacggcgaccgtgcacagtactgtgccacagttgtagggacggataagctccgttcttttttatccttttttttgagatttgt
ttgcgttcgcatcgtagacgagcttagtgccgtgtgtcttaattgctatttattataaagcgttccaaatagaagatcggttctctc
catttaattctatcgcgctgtacgcctgaaactatgcactgtgctgtgaaaccgtcaagctcgagcacgacgaatggcccaccgtacc
acgcccgtgggtgccccaaagcgcaacgcgaattgcatgttaacaaactttgctaccatccaatccgtgtgaaattggcctctctctt
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Figure 11b

Anopheles gambiae odorant receptor 7 amino acid sequence (SEQ ID NO: 20)

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15

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